

Philosophical Aspects Of Artificial Intelligence As A Phenomenon Of Social Reality

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Abstract: The scientific article examines the genesis and evolution of ideas about "machine intelligence", "artificial intelligence", and shows the step-by-step implementation of these ideas in practice. The main parameters of artificial intelligence are analyzed and its features are identified. The essence of natural intelligence is revealed and the dialectical relationship with artificial intelligence is substantiated. The ambivalent nature of the functioning of artificial intelligence is shown.

Key words: philosophy of artificial intelligence, "machine intelligence", artificial intelligence (AI), natural intelligence (NI), technologies, "man - machine", natural-artificial world, images of reality, neural networks, philosophical reflection, ontological model

Introduction.

A distinctive feature of the social reality of the twenty-first century is the rapid pace of scientific and technological progress, which has determined diverse models of the technologization of the world and the emergence of the technosphere. The concept of the technosphere entered scholarly discourse in the twentieth century, when a qualitative leap occurred in the development of technology, which also became widespread and was actively introduced into various spheres of individual and social activity. The formation of the philosophy of artificial intelligence as an interdisciplinary field dates back to the second half of the twentieth century. The demand for this field is explained by the fact that this new branch of philosophical knowledge examines not only the essence and mechanisms of "machine thinking" and "artificial intelligence," but also other aspects of the functioning of this phenomenon. The relevance of the problem increases in connection with the growing influence of artificial intelligence on society and the "survival" of humanity [1, p. 739]. The history of the philosophy of artificial intelligence explores the possibilities of the computer-based realization of thinking and personological parameters.

In the realities of the contemporary world, artificial intelligence is viewed as both a theory and a method for creating computer programs capable of performing tasks analogous to those of the human mind. The division of reality into "two worlds"—the natural and the artificial—testifies to the growing influence of artificial intelligence on modern society. The projected growth of the global artificial intelligence technology market by 2025 underscores the social significance of this dilemma, particularly in light of the development of technological giants such as the OpenAI system, ChatGPT, and the Midjourney neural network, which is capable of generating images based on textual descriptions [2, p. 241]. In this context, there arises a need for philosophical reflection on the nature and functioning of AI in society.

Within the sociocultural space, artificial intelligence occupies an increasingly important place across various spheres of human activity. It should be noted that the increasing complexity of technologies, the functioning of AI, and its acquisition of instrumental status are ambivalent in nature. The emergence of new ontological–existential, anthropological, epistemological, moral-humanistic, and legal threats and risks requires closer attention from both researchers and developers. Of particular interest is the position of scholars O.A. Baksansky and S.G. Sorokina, who argue that “despite the challenges and dangers, artificial intelligence remains a promising technology capable of expanding our capabilities and simplifying everyday life. The key is to remember its instrumental nature and to use AI with the utmost caution, transparency, and ethical responsibility in order to enhance technological efficiency and minimize potential negative consequences” [3, p. 31].

Literature Review.

The scientific-theoretical and methodological foundations of the philosophy of artificial intelligence as an interdisciplinary field have been laid in the works of scholars representing the highest level of theoretical generalization, including V.S. Stepin, V.I. Arshinov, V.S. Shvyrev, A.V. Lubsy, A.F. Zotov, M.N. Abdullaeva, and E.M. Izzetova. Socio-philosophical aspects of addressing this problem are traced in the studies of K.K. Kolin and N.M. Smirnova, while neurophysiological and neuroscientific issues are reflected in the works of M.A. Ivanitsky, D.P. Matyushkin, and T.V. Chernigovskaya.

The research focus of scholars such as D.I. Dubrovsky, M.A. Kholodnaya, M.N. Smirnov, and N.S. Yulin is directed toward the methodological interconnection between natural and artificial intelligence. The sociocultural parameters of artificial intelligence have become the subject of investigation for researchers including A.Yu. Alekseev, A.G. Chernyakov, A.V. Savelyev, N.M. Smirnov, A.L. Drozdov, V.B. Tarasov, V.A. Kutylev, and I.S. Saifnazarov.

The philosophy of artificial intelligence as a domain of autonomous philosophical knowledge has been explored by I.Yu. Alekseev, S.L. Katrechko, A.M. Openkov, A.I. Uemov, A.A. Lipaev, and S.V. Shitkov. Ontological and epistemological dimensions of artificial intelligence have been examined by E.V. Sergeev, A.E. Klenina, A.E. Peskov, D.A. Sushkin, and V.A. Ladov. Ethical and humanistic aspects are addressed in the studies of M.Zh. Spanov, D.D. Kaparova, E.V. Li, and others. The scholarly interest of T.M. Makhmatov, I.M. Oreshnikov, T.I. Shkerina, and D.V. Gluzdov is focused on the mechanisms and contradictions inherent in the functioning of artificial intelligence.

Research Methods.

The methodological framework of the study is based on an interdisciplinary approach. This approach encompasses: (a) analytic philosophy of mind and the philosophy of artificial intelligence; and (b) an integrative methodology drawing on cognitive science, computer science, and neuroscience. To achieve the research objectives and address the stated tasks, logical methods of argumentation, the principle of historicism, as well as methods of interpretation, conceptual analysis, and synthesis were employed.

Analysis and Results.

As noted above, the current stage of societal development is characterized by the active and widespread implementation of technology as a key factor in the processes of digitalization and the development of the technosphere as a whole. Today, more than ever before, science and technology interact and mutually influence one another. A.A. Lipaev argues that the time has come to create a new science—“technospherology”—which would study, in a generalized form, the domain of human technical activity, the laws governing the evolution of the technosphere, and its interaction with the environment [4, p. 144]. According to the author, this discipline is necessary for investigating the regularities underlying the formation of technosphere objects, that is, artificial entities and processes created on the basis of knowledge. One of the most dynamically developing directions of digitalization and technologization is the creation and application of artificial intelligence.

Throughout history, outstanding scholars and inventors have sought to realize the idea of creating intelligent machines modeled on the image and likeness of human beings—endowed with the capacity to think, move, perceive sounds, and behave consciously. Historical evidence indicates that such attempts were already undertaken by inventors in antiquity. Researcher D.V. Bakhteev advances the scholarly view that “the first philosophical precondition for the formation of artificial intelligence should be considered the works of Aristotle, who was the first in history to attempt a formalization of human cognitive operations and to formulate certain foundations of formal syllogistic logic, which many centuries later would be integrated into automated technical devices” [5, p. 90].

A retrospective analysis of the problem indicates that its origins can be traced to the intellectual heritage of the Eastern mathematician al-Khwarizmi, whose name is associated with the universal adoption of the term “algorithm.” Algorithmic theory constitutes the foundation of modern mathematics, cybernetics, computer science, digital technologies, and artificial intelligence. The first functioning machine capable of performing the addition of two numbers was constructed in the seventeenth century by B. Pascal. This initiative was continued by G. Leibniz, who developed a machine capable of performing all four basic arithmetic operations. The baton was later taken up by the eighteenth-century French inventor J. de Vaucanson, who succeeded in creating an anthropomorphic mechanical musician. During the same period, F. von Knaus designed several machines capable of writing extensive texts with a pen. In 1914, L. Torres y Quevedo invented an electromechanical device capable of playing simple chess endgames [6, p. 8].

The term “artificial intelligence” was introduced into the scientific and philosophical lexicon by John McCarthy. According to McCarthy’s definition, “artificial intelligence is the property of intelligent systems to perform creative functions that are traditionally considered the prerogative of human beings; it is the science and technology of creating intelligent machines, especially intelligent computer programs” [7].

The scholarly literature identifies the principal parameters of artificial intelligence. These include: (a) the ability to solve complex problems, accumulate large volumes of information, and operate with them; (b) the existence of an internal model of the external world; (c) this model enables the system to preserve individuality and relative autonomy in assessing situations and contains the potential for semantic and pragmatic interpretation of queries addressed to the system; (d) the capacity to expand existing knowledge and to perform deductive reasoning—in other words, to generate information not explicitly contained within the system; (e) this quality allows the system to construct informational structures with new semantics and practical orientation; (f) the ability to apply the instrument of understanding natural language in uncertain situations, as well as the capacity to engage in dialogical interaction with humans; and (g) the ability to adapt [6, p. 8].

The contemporary stage of development of artificial intelligence technologies includes the following aspects:

1. deep learning and neural networks, which enable AI to learn from large volumes of data and solve complex problems;
2. large language models, through which AI processes and generates text with a high degree of accuracy and semantic coherence;
3. pattern recognition, whereby AI identifies objects in photographs and videos, particularly in security systems and medical diagnostics;
4. the stimulation of robotics development by AI, including the creation of robots capable of performing tasks ranging from sorting operations to surgical procedures.

These aspects demonstrate that AI has gone beyond the mere processing of large datasets; it is capable of self-learning and, moreover, functions “as the main driving force of the fourth scientific and technological revolution, exerting a long-term impact on economic development, social dynamics, and the evolutionary trajectories of human civilization as a whole” [7, p. 104].

In scientific and philosophical studies devoted to the nature of the human mind and natural intelligence, the latter is interpreted as a metacognitive capacity inherent to human beings. By virtue of this capacity, individuals are able to evaluate, integrate, and organize knowledge, extracting semantic structures from it. In addition, natural intelligence is characterized by the capacity for goal-setting and self-regulation, which enables human beings to adapt to rapidly changing social conditions. Consequently, this opens up prospects for constructing social interactions based on an understanding of the essence of ongoing processes. Human natural intelligence represents a complex characteristic of mental potential and cognitive abilities, encompassing an understanding of the real world and of one's own "I–You–Other," and constitutes a system of all mental abilities, skills, and competencies. This phenomenon includes such components as cognitive tools, ideal images, the entire range of forms of abstract, rational-logical, creative, and intuitive thinking, associations, imagination, fantasy, and ideal constructions and images that anticipate the present and are oriented toward the future. It is important to bear in mind that "human intellectual activity involves not only rational, logical, and linguistic means, but also unconscious and irrational phenomena and processes, and even human corporeality" [6, p. 7].

Summing up the foregoing, it can be stated that natural intelligence is not merely a product of nature. From this perspective, one can speak of the laws governing its functioning and development; however, it is also an "extra-natural" formation, the existence of which is subject to contingency and uniqueness. In this sense, natural intelligence also changes in a "singular" manner. At the same time, natural intelligence constitutes an integral part of an individual's worldview, world-feeling, world-perception, and world-understanding as a subject of activity.

Comparing natural intelligence with artificial intelligence is a rather complex procedure; nevertheless, it is important to remember that artificial intelligence remains a form of technology designed and constructed by human beings as a means of achieving vital goals. Accordingly, "if a person wishes to endow artificial intelligence with independence and autonomy for solving certain tasks, this must not be done to one's own detriment, and there must always remain the possibility of limiting or even completely revoking such autonomy" [9]. Thus, the attributes of a post-industrial society become "two systems of intelligence: natural (human) and artificial (AI). Owing to the divergence of their interests, a struggle for mutual subordination arises between these two systems" [10, p. 697].

Artificial intelligence is connected with mechanisms of signal transmission in the brain through neural networks, which function as the core of artificial intelligence [11, pp. 52–56]. Authors who study neural networks and advances in computer modeling often refer to synapses and neurotransmitters. Those who seek to understand the nature of natural intelligence, as a rule, turn to philosophical concepts [12]. In the contemporary world, the development of artificial intelligence in the field of pattern recognition no longer appears as challenging as the modeling of specialized intellectual functions [13, p. 50]. In this context, an attempt is made to construct an ontological model for the formation of theories of artificial intelligence. This model relies on philosophical ideas and principles such as the principle of the knowability of the world, the principle of development and universal interconnectedness, the principle of historicism, and the principle of orienting technologies toward the "priority of human-scale existence." The paradigm also includes the very idea of creating highly developed "thinking" machines, intensifying human–machine interaction, and increasing the share of artificial intelligence in collective thinking.

Artificial intelligence, in turn, is characterized by a procedural approach and the pursuit of creating abstract models that reproduce representations and knowledge about the world. Scientific literature emphasizes the idea that artificial intelligence also reflects the real relationship of humans to society and contributes to the enhancement of the synthesis of cognitive procedures based on both sensitive and rational experience [1, p. 745]. Some authors interpret artificial intelligence as a phenomenon capable of extracting meaning from information, setting goals, and selecting strategies for achieving them. Although artificial intelligence represents an abstract ideal, it incorporates human cognitive activity as well as the capacity for adaptation and the synthesis of cognitive procedures. Nevertheless, artificial activity remains connected with the fundamental principles of natural intelligence, even though it lacks some of its characteristics [14, pp. 106–108].

The contribution of R. Descartes lies in his early identification of the problem of differentiating human and machine capacities. “The separation of body from mind allows Descartes’ dualism to be considered a precursor to the idea of philosophically contemplating the creation of artificial thinking—artificial intelligence—distinct from natural intelligence” [15, p. 37].

Examining artificial intelligence through the lens of philosophy shows that it distances itself from a mere substrate-based approach to cognition. Its evolution begins at moments of human activity when, in opposition to the material world, it seeks to uncover internal connections between objects; these connections appear as the resultant “intersection” of functions of the material and spiritual worlds. Nevertheless, artificial intelligence is not limited to the simple formalization of phenomena and processes. It does not seek to convert all knowledge into a purely formal-logical system. At the same time, T.G. Leshkevich raises concerns regarding the dynamics of high-technology development, with AI acting as the primary driver. In this process, opposing trends are observed: a high rate of AI development alongside a significant lag in “comprehensive socio-humanitarian reflection focused on understanding the extent to which technological development is directed toward creating a reality suitable for future generations” [13, p. 50].

While creating favorable conditions for intentional human activity, AI should not displace humans from the diverse spheres of labor. It is important to align the goals of humanity and AI [16, p. 164]. Human-centeredness must maintain its position in this context. The social evaluation of digital technologies, the philosophy, and ethics of AI “are intended to promote mechanisms of self-limitation and self-control under conditions of uncertainty” [17, p. 82]. The widespread application of AI raises concerns regarding safety as well as the moral dimension of the issue [18]. Specifically, there are certain risks related to privacy violations, fairness, ethical principles, and social responsibility.

Conclusion

As a result of this study, it can be concluded that artificial intelligence represents a complex and multifaceted phenomenon. It acts as a factor of large-scale transformations within socio-cultural reality. The changes it induces can be both positive and potentially harmful to humans and modern civilization. A key task of philosophical discourse is, on the one hand, to assess the consequences of developing machine intelligence, and on the other hand, to prepare humanity for the emergence of highly advanced artificial intelligence. Philosophy, as a rational type of worldview, brings to the fore the task of developing a reasoned and balanced approach to the active implementation of AI systems. It is also necessary to consider the risks accompanying this process, particularly the impact they may have on contemporary human understanding, their relationship to the surrounding world, and their self-perception. Philosophical reflection helps identify and articulate problems, determine the trajectory of AI development through the lens of changes in human existence, and, if necessary, adapt this development to new circumstances.

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